CLAIMS

1. An omnidirectional visual camera comprising:

a reflecting member including a rotating surface portion having a convex surface of a rotating secondary curved surface and a cylindrical portion having a cylindrical shape and having a rotating center axis aligning or virtually aligning with a rotating axis of said rotating surface, said rotating surface portion and said cylindrical portion being integrally molded of a transparent material so that an outer diameter portion of said rotating surface portion is inscribed in the cylindrical portion, the projecting surface of said rotating surface portion being processed into a mirror surface; and

a camera having an optical axis substantially aligning with the rotating center axis of said reflecting member and installed opposite to the convex surface of said rotating surface portion,

said camera picking up a reflected image reflected from the convex surface of the rotating surface portion of said reflecting member.

2. An omnidirectional visual camera comprising:

a reflecting member including a rotating surface portion having a convex surface of a rotating secondary curved surface, a cylindrical portion having a cylindrical shape and having a rotating center axis virtually aligning with a rotating axis of said rotating surface, and having a cylindrical inner diameter larger than an outer diameter of said rotating surface portion, and a connection section for connecting one longitudinal end of said cylindrical portion and the outer diameter portion of said rotating surface portion, said rotating surface portion, said cylindrical portion, and said connection section being integrally molded of a transparent material, the projecting surface of said rotating surface portion being processed into a mirror surface; and

a camera having an optical axis substantially aligning with the rotating center axis of said reflecting member and installed opposite to the convex surface of said rotating surface portion,

said camera picking up a reflected image reflected from the convex surface of the rotating surface portion of said reflecting member.

3. The omnidirectional visual camera according to Claim 2, wherein the convex surface of the rotating surface portion has a hyperboloidal shape having an internal focus, and the connection section is configured so that an arbitrary line joining the outer diameter portion of the rotating surface portion and said internal focus together passes through the cylindrical portion.

4. The omnidirectional visual camera according to Claim 2 or 3, wherein the connection section of the reflecting member or both the connection section and a surface of the rotating surface portion which is not processed into a mirror surface are processed to block light.

5. The omnidirectional visual camera according to any of Claims 1 to 4, wherein one end surface of the cylindrical portion to which the rotating surface portion is connected has a smaller diameter than the other end thereof.